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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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COUNTRY	East Germany	REPORT	
SUBJECT	Research on Synthetic Materials at VEB Plasta Kunstharz- und Pressmassefabrik Espenhain	DATE DISTR.	17 February 1954
		NO. OF PAGES	2
DATE OF INFO.		REQUIREMENT NO.	RD
PLACE ACQUIRED		REFERENCES	

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THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
THE APPRAISAL OF CONTENT IS TENTATIVE.
(FOR KEY SEE REVERSE)

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Dr. Hessen of VEB Plasta Kunstharz- und Pressmassefabrik Espenhain, carried on experiments on the influence of small quantities of impurities in the raw materials of phenol and cresol resins, and in ammonia components, and the viscosity.

1. Influence of pyridine on the viscosity:

Quantity of cresol used gr.	Quantity of formaline (34.4% content) gr.	Pyridine %	Viscosity in cp	Nonreacting formaline in the watery phase gr.
108	86	0	4081	4.67
108	86	0.25	5759	3.96
108	86	0.50	7863	3.86
108	86	0.75	11166	3.46
108	86	1.00	15451	3.25
108	86	1.25	24737	2.84
108	86	1.50	46144	2.74

2. Influence of methanol content on the viscosity:
   (a) Formula: 108 gr. cresol
   30 gr. paraform
   5.9 net NH_3 23.7%

   (b) Reaction period: 60 minutes

Methanol % in formaline	Viscosity in cp
0	140000
3	45975
6	8399
9	2255
12	1148
18	2897

25 YEAR RE-REVIEW

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3. Influence of the ammonia K-quantity on the condensation:

(a) Formula: 54 gr. cresol
43 gr. formaline (35.4% HCHO: 3.7% CH_3 OH: 0.21% HCOOH).

(b) Condensation period: 50 minutes.

Nº of drops of ammonia (23.7%)	Ammonia ccm	Viscosity at 30°C cp	Shown in the watery phase cresol %	Shown in the watery phase formaline %
100	3.10	4733	3.07	4.75
98	3.04	3444	2.99	4.8
96	2.98	2708	3.28	4.9

4. Viscosity falls at increasing naphtaline impurity.

5. At condensation with ozalic acid,a white substance is sublimated, the oxygen content of which was determined at 60%. Structure ascertainment is in progress: presumably COO - CH_2 - O - CH_2 - CH_2 - OH ? or the like (oder ähnlich).